

REMARKS

Claims 1-12 are pending.

Claim 1 has been amended to correct an obvious typographical error.

In the Office action, the claims were rejected over the prior art as follows:

- Claims 1-2 and 7-8 were rejected as anticipated by the Applicant's admitted prior art.
- Claims 1-4, 6-10 and 12 were rejected as anticipated by U.S. Patent No. 5,969,707 (Hentschel et al.).
- Claims 5 and 11 were rejected as unpatentable over the Hentschel et al. patent in view of the Lerkvarnyu article entitled "Moving Average Method for Time Series Lidar Data."

As discussed below, we disagree.

To anticipate the claimed subject matter, a single prior art reference must disclose each and every limitation of the claim either expressly or inherently. As discussed below, neither the Applicant's admitted prior art nor the Hentschel et al. patent does so. Nor would there have been any suggestion of the claimed subject matter.

Applicant's invention relates to techniques for measuring the noise level in an optical amplifier. Measurements of the noise are based on (1) optical spectrum information of the amplified signal and (2) optical spectrum information of the signal from the light source. That is shown, for example, in FIG. 1 in which the signal light source 11 and the optical amplifier 12 are coupled to the optical spectrum analyzer 13. The independent claims reflect that feature as follows. For example, claim 1 recites "wherein the optical spectrum analyzing section prepares the optical spectrum information of the signal light from the light source and optical spectrum information of the amplified signal light." Similarly, claim 7 recites "calculating a noise figure

contained in the amplified signal light based on the optical spectrum information of the appointed signal light and the amplified signal light.”

In contrast, neither the Background section of Applicant's specification nor the Hentschel et al. patent discloses that feature.

For example, in the conventional system described at page 2 of the specification, only the amplified optical signal is provided to the optical spectrum analyzer (*see* lines 9-13).

The Hentschel et al. patent discloses a technique for measuring the noise level in an optical amplifier. That technique is based on determining a difference function corresponding to the difference in noise levels before and after detuning the signal as a function of wavelength. As shown in FIG. 1, a controller 2 is coupled to a laser source 14, an amplifier test set 11, a power meter 22 and an optical spectrum analyzer 13. An optical signal from the amplifier 10 can directly be transmitted to the optical spectrum analyzer 13 (col. 3, line 66 – col. 4, line 1). However, there is no disclosure or suggestion of the optical spectrum analyzer 13 also receiving a signal from the laser source 14.

The Office action cites the Lerkvarnyu publication in connection with claims 5 and 11 for its disclosure of a moving average process. That publication, however, also does not disclose or suggest the features missing from Applicant's admitted prior art and from the Hentschel et al. patent discussed above.

In view of the foregoing remarks, Applicant respectfully requests reconsideration and withdrawal of the rejections of the claims.

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Serial No. : 09/996,509  
Filed : November 28, 2001  
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Attorney's Docket No.: 10830-079001 / A36-  
137192M/YAH

Information Disclosure Statement

In the Office action, the Examiner indicated that item AJ (Japanese patent document 5-133841) listed on form 1449 submitted by the applicant in an Information Disclosure Statement was not considered because the English language abstract was insufficient. Applicant submits that the reference was timely filed together with the English-language abstract as well as a copy of the UK search report which indicated the document's relevance. Neither the applicant nor applicant's attorney had an English translation of the Japanese document readily available. However, a translation has been requested and will be forwarded to the Examiner as soon as it becomes available.

Respectfully submitted,

Date: 7/25/03

  
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